

# **HIGH LINEARITY DOHERTY COMMUNICATION AMPLIFIER WITH BIAS CONTROL**

## **ABSTRACT OF THE DISCLOSURE**

The present invention relates to bias control of a power amplification circuit of a mobile device for improving the efficiency and the linearity properties of the power amplifier. In one embodiment, the power amplifier improves these properties by receiving a voltage control signal to bias a supplemental amplifier so that the power amplifier operates in a Doherty mode in a low output power range and in a non-Doherty mode in a high output power range. In the non-Doherty mode, the supplemental amplifier is biased as a class AB amplifier via the received voltage control signal to satisfy the non-linear operational requirements of the power amplifier in the high output power range. The power amplifier generates the voltage control signal based upon power levels of signals received from a remote base station.